

**CLAIMS**

That which is claimed is:

1. A golf club head comprising:
  - a face that provides a contact area for engaging a golf ball; and
  - a weight positioning system that includes a support and a weight, the weight being movable along the support and around the support to vary a position of a center of gravity of the golf club head with respect to the face.
2. The golf club head of claim 1, wherein the golf club head includes a shell, and the face is a portion of the shell.
3. The golf club head of claim 2, wherein the shell defines an aperture, the weight positioning system being removable from an interior of the shell through the aperture.
4. The golf club head of claim 3, wherein the aperture is positioned in a lower area of the shell.
5. The golf club head of claim 2, wherein the weight positioning system includes a connector configured to connect the weight positioning system to the shell.
6. The golf club head of claim 1, wherein the support is positioned in a substantially vertical orientation.
7. The golf club head of claim 1, wherein the weight positioning system includes a locking mechanism that secures a position of the weight relative to the support.
8. The golf club head of claim 7, wherein the locking mechanism is a pair of locking rings that extend around the support.
9. The golf club head of claim 8, wherein the support and the locking rings include corresponding threads.

10. The golf club head of claim 8, wherein the locking rings are positioned on opposite sides of the weight.

11. The golf club head of claim 1, wherein a center of gravity of the weight is offset from a centerline of the support.

12. The golf club head of claim 1, wherein the weight has an elliptical shape.

13. The golf club head of claim 1, wherein the weight defines an opening that extends at least partially around the support.

14. The golf club head of claim 13, wherein a center of gravity of the weight is offset from the opening.

15. The golf club head of claim 13, wherein one of an indentation and a protrusion extends along the support, and another of the indentation and the protrusion is positioned within the opening, the indentation receiving the protrusion to limit movement of the weight around the support.

16. The golf club head of claim 1, wherein the weight is independently movable along the support and independently movable around the support.

17. The golf club head of claim 1, wherein the weight positioning system includes at least one scale to determine a position of the weight relative to the support.

18. The golf club head of claim 1, wherein the weight is interchangeable with one of a plurality of alternate weights.

19. The golf club head of claim 18, wherein at least one of the alternate weights has a different mass than the weight.

20. The golf club head of claim 18, wherein at least one of the alternate weights has a different shape than the weight.
21. The golf club head of claim 1, wherein the weight positioning system is mounted on an exterior of the golf club head.
22. The golf club head of claim 1, wherein the weight includes a pair of arms that extend outward from the support, and a pair of masses are secured to the arms.
23. The golf club head of claim 22, wherein the arms are angled with respect to each other.
24. A golf club head comprising:
  - a shell having a face that provides a contact area for engaging a golf ball; and
  - a weight positioning system substantially located on an interior of the shell, the weight positioning system including:
    - a support, and
    - a weight movably-connected to the support, the weight being movable along the support to vary a position of a center of gravity of the golf club head in first direction with respect to the face, and the support being movable around the support to vary the position of the center of gravity of the golf club head in a second direction with respect to the face.
25. The golf club head of claim 24, wherein the weight is independently movable along the support and independently movable around the support.
26. The golf club head of claim 24, wherein an aperture is positioned in a lower area of the shell, the weight positioning system being removable from the interior of the shell through the aperture.

27. The golf club head of claim 24, wherein the weight positioning system includes a locking mechanism that secures a position of the weight relative to the support.

28. The golf club head of claim 27, wherein the locking mechanism is a pair of locking rings that extend around the support.

29. The golf club head of claim 28, wherein the support and the locking rings include corresponding threads.

30. The golf club head of claim 24, wherein a center of gravity of the weight is offset from a centerline of the support.

31. The golf club head of claim 24, wherein the weight defines an opening that extends at least partially around the support.

32. The golf club head of claim 31, wherein a center of gravity of the weight is offset from the opening.

33. The golf club head of claim 24, wherein one of an indentation and a protrusion extends along the support, and another of the indentation and the protrusion is positioned within an opening defined in the weight, the indentation receiving the protrusion to limit movement of the weight around the support.

34. The golf club head of claim 24, wherein the weight positioning system includes at least one scale to determine a position of the weight relative to the support.

35. The golf club head of claim 24, wherein the weight is interchangeable with one of a plurality of alternate weights.

36. The golf club head of claim 35, wherein at least one of the alternate weights has a different mass than the weight.

37. The golf club head of claim 35, wherein at least one of the alternate weights has a different shape than the weight.

38. The golf club head of claim 24, wherein the weight positioning system includes a connector configured to connect the weight positioning system to the shell.

39. The golf club head of claim 24, wherein the weight includes a pair of arms that extend outward from the support, and a pair of masses are secured to the arms.

40. The golf club head of claim 39, wherein the arms are angled with respect to each other.

41. A golf club having an elongate shaft and a head positioned on an end of the shaft, the head comprising:

a face that provides a contact area for engaging a golf ball; and

a weight positioning system that includes:

a support,

a weight movably-connected to the support, the weight being independently movable along the support to vary a position of a center of gravity of the golf club head in first direction with respect to the face, and the weight being independently movable around the support to vary the position of the center of gravity of the golf club head in a second direction with respect to the face, and

a locking mechanism to secure a position of the weight relative to the support.

42. The golf club of claim 41, wherein the golf club head includes a shell, and the face is a portion of the shell.

43. The golf club of claim 42, wherein the shell defines an aperture, the weight positioning system being removable from an interior of the shell through the aperture.

44. The golf club of claim 43, wherein the aperture is positioned in a lower area of the shell.
45. The golf club of claim 41, wherein the locking mechanism is a pair of locking rings that extend around the support.
46. The golf club of claim 45, wherein the support and the locking rings include corresponding threads.
47. The golf club of claim 41, wherein a center of gravity of the weight is offset from a centerline of the support.
48. The golf club of claim 41, wherein the weight defines an opening that extends at least partially around the support.
49. The golf club of claim 48, wherein a center of gravity of the weight is offset from the opening.
50. The golf club of claim 48, wherein one of an indentation and a protrusion extends along the support, and another of the indentation and the protrusion is positioned within the opening, the indentation receiving the protrusion to limit movement of the weight around the support.
51. The golf club of claim 41, wherein the weight is interchangeable with one of a plurality of alternate weights.
52. The golf club of claim 51, wherein at least one of the alternate weights has a different mass than the weight.
53. The golf club of claim 51, wherein at least one of the alternate weights has a different shape than the weight.

54. The golf club of claim 41, wherein the weight positioning system is mounted on an exterior of the head.

55. A golf club having an elongate shaft and a head positioned on an end of the shaft, the head comprising:

a face that provides a contact area for engaging a golf ball; and

a weight positioning system that includes a support and a weight, the weight being movable in three dimensions with respect to the support to vary a position of a center of gravity of the golf club head with respect to the face.

56. The golf club of claim 55, wherein the weight positioning system includes a locking mechanism that secures a position of the weight relative to the support.

57. The golf club of claim 55, wherein the locking mechanism is a pair of locking rings that extend around the support.

58. The golf club of claim 55, wherein a center of gravity of the weight is offset from a centerline of the support.

59. The golf club of claim 55, wherein the weight defines an opening that extends at least partially around the support.

60. The golf club of claim 59, wherein a center of gravity of the weight is offset from the opening.

61. The golf club of claim 55, wherein the weight is interchangeable with one of a plurality of alternate weights.

62. The golf club of claim 61, wherein at least one of the alternate weights has at least one of a different mass and a different shape than the weight.

63. The golf club of claim 55, wherein the weight positioning system is mounted on an exterior of the head.

64. A golf club head comprising:  
a face that provides a contact area for engaging a golf ball; and  
a weight positioning system that includes a support and a weight, the weight being movable in three dimensions with respect to the support to vary a position of a center of gravity of the golf club head with respect to the face.

65. The golf club head of claim 64, wherein the golf club head includes a shell, and the face is a portion of the shell.

66. The golf club head of claim 64, wherein the support is positioned in a substantially vertical orientation.

67. The golf club head of claim 64, wherein the weight positioning system includes a locking mechanism that secures a position of the weight relative to the support.

68. The golf club head of claim 64, wherein a center of gravity of the weight is offset from a centerline of the support.

69. The golf club head of claim 64, wherein the weight is independently movable along the support and independently movable around the support.

70. The golf club head of claim 64, wherein the weight includes a pair of arms that extend outward from the support, and a pair of masses are secured to the arms.